



IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Arman Glodjo, Nathan D. Bronson, and Scott E. Harrington

SERIAL NO.: 10/005,609

FILING DATE: November 7, 2001

TITLE: Global Electronic Trading System

EXAMINER: not yet known

GROUP ART UNIT: not yet known

ATTY. DKT. NO.: 22593-06028

RECEIVED  
FEB 22 2002  
Technology Center 2100

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner For Patents, Washington, D.C. 20231, on the date shown below:

Date:

January 23, 2002

By:

Edward J. Radlo, Reg. No. 26,793

COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

**PETITION TO MAKE SPECIAL UNDER M.P.E.P. § 708.02, VIII**

**Petition**

Applicants hereby petition to make this application special. The application has not received any communication by the Examiner. The fee set forth in 37 C.F.R. §1.17(h) is enclosed herewith.

**Independent Claims**

The eleven independent claims of this patent application are set forth hereinbelow. Claim 9 has been amended to correct a

minor typographical error ("ofitems" corrected to "of items" in claim 9 line 1).

1        1. A system for facilitating trading two items from the  
2 group of items comprising commodities and financial instruments,  
3 said system comprising:

4            at least two agents that want to trade the items;

5            a trading channel between the two agents allowing for  
6            the execution of trades;

7            flow limits on the traded items and on any underlying  
8 instruments to be exchanged upon settlement of the traded items;  
9 and

10           a central computer coupled to the two agents, said  
11 computer adapted to convey to each agent current tradable bid  
12 and offered prices and sizes subject to the agent's flow limits.

1        9. (Amended) A system for facilitating the trading of  
2 items from the group of items comprising commodities and  
3 financial instruments, said system comprising:

4            a plurality of agents that wish to trade the items,

5            wherein each agent is coupled to at least one other  
6            agent via a trading channel; and

7            a central computer that conveys to each agent current  
8            tradable bid and offered prices and sizes subject to  
9            the agent's trading and flow limits; wherein

10           there is at least one non-credit-extending agent  
11           having trading channels with at least two credit-  
12           extending agents; and  
13           there is at least one commonly-coupled credit-  
14           extending agent having trading channels with at  
15           least two non-credit-extending agents, wherein said  
16           commonly-coupled credit-extending agent has  
17           instructed the central computer that it is  
18           permissible to have at least two non-credit-  
19           extending agents perform trades via said commonly-  
20           coupled credit-extending agent.

1           19. A trading system comprising a non-disjointed network  
2           of  $j$  credit-extending agents and  $k$  non-credit-extending agents,  
3           where  $j$  and  $k$  are each positive integers at least equal to two;  
4           wherein  
5           the agents are connected via trading channels; and  
6           the agents are adapted to trade items from the group  
7           of items comprising commodities and financial  
8           instruments; said system further comprising:  
9           a central computer coupled to the agents, said  
10           computer being adapted to calculate, for each pair  
11           of items being traded, topology-dependent individual  
12           trading limits for each agent.

1           20. A non-disjointed network comprising:

2           j credit-extending agents and k non-credit-extending  
3           agents, where j and k are each positive integers at  
4           least equal to two;  
5           a plurality of trading channels coupling the agents to  
6           each other, wherein the trading channels permit the  
7           agents to trade items from the group of items  
8           comprising commodities and financial instruments;  
9           and  
10          a central computer which, for each pair of items being  
11          traded, converts the network into a virtually  
12          cliqued network.

1          43. A method for an agent to trade with a counterparty an  
2          item from the group of items comprising commodities and  
3          financial instruments, said method comprising:  
4              receiving from a central computer a custom limit order  
5              book which takes into account multi-hop trading  
6              limits with other agents coupled to the central  
7              computer; and  
8              communicating an order to the central computer based  
9              upon information contained in the custom limit order  
10             book.

1          44. A computer adapted to facilitate trading among a  
2          plurality of agents items from the group of items comprising  
3          commodities and financial instruments, said computer comprising:

4 means for converting specified input credit limits  
5 into a set of trading limits;  
6 coupled to the converting means, means for postulating  
7 the trading limits as a set of multi-hop trading  
8 limits; and  
9 coupled to the postulating means, means for  
10 communicating the multi-hop trading limits to the  
11 agents in the form of a custom limit order book for  
12 each agent, taking into account all of the specified  
13 input credit limits.

1 46. A computer readable medium comprising computer program  
2 instructions for enabling an agent to trade items from the group  
3 of items comprising commodities and financial instruments, said  
4 computer program instructions enabling said agent to perform the  
5 steps of:  
6 receiving from a central computer a custom limit order  
7 book which takes into account multi-hop trading  
8 limits with other agents coupled to the central  
9 computer; and  
10 communicating an order to the central computer based  
11 upon information contained in the custom limit order  
12 book.

1 47. A method by which a computer facilitates trading,  
2 among a plurality of agents, items from the group of items

3 comprising commodities and financial instruments, said computer  
4 performing the steps of:  
5       converting specified input credit limits into a set of  
6       computerized trading limits;  
7       graphing a network comprising nodes representing  
8       agents, said nodes being connected by paths  
9       representing the trading limits;  
10      deriving from the graph a set of multi-hop trading  
11      limits between each pair of agents; and  
12      communicating the multi-hop trading limits to the  
13      agents in the form of a custom limit order book for  
14      each agent, said custom limit order book taking into  
15      account the topology of the network.

1       49. A first agent computer adapted to trade with other  
2 agent computers items from the group of items comprising  
3 commodities and financial instruments, said first agent computer  
4 comprising:  
5       a display; and  
6       displayed on the display, a custom limit order book  
7       showing, for each pair of items to be traded, multi-  
8       hop trading limits between said first agent computer  
9       and each of said other agent computers.

1       53. A method by which a first agent trades with other  
2 agents items from the group of items comprising commodities and

3 financial instruments, said method comprising said first agent  
4 performing the steps of:  
5 viewing a custom limit order book showing, for each  
6 pair of items to be traded, multi-hop trading limits  
7 between said first agent and each of said other  
8 agents; and  
9 executing a maneuver from the set of maneuvers  
10 comprising placing an order to be considered by said  
11 other agents and taking an order placed by one of  
12 said other agents.

1 55. A computer readable medium comprising computer program  
2 instructions for enabling a central computer to facilitate  
3 trading, among a plurality of agents, items from the group of  
4 items comprising commodities and financial instruments, said  
5 computer program instructions enabling said central computer to  
6 perform the steps of:

7 converting specified input credit limits into a set of  
8 computerized trading limits;  
9 graphing a network comprising nodes representing  
10 agents, said nodes being connected by paths  
11 representing the trading limits;  
12 deriving from the graph a set of multi-hop trading  
13 limits between each pair of agents; and

14 communicating the multi-hop trading limits to the  
15 agents in the form of a custom limit order book for  
16 each agent, said custom limit order book taking into  
17 account the topology of the network.

#### **Pre-Examination Search**

A search of relevant references was made through various resources. On the USPTO Web site, a class-specific search of class 705, spanning the years from 1986 to 2002, was made using the following Boolean search string: "(((CCL/705/\$ AND SPEC/("financial instrument" OR commodit!)) AND (electronic OR computer)) AND ((trade or trading) OR exchange))". Additionally, a more general search on Lexis, via the U.S. Utility Patents, the Non-U.S. Patents / Patent Cooperation Treaty Patent Applications, and Computer / Communication News Current databases, was made using the following Boolean search string: "global or international or worldwide or network or computer! or electronic w/5 financial or commodit! or financial instrument w/10 trade or exchange or barter or deal w/5 system or channel or connect! or network or communicat!". The Computer / Communications News Current database search string was further limited to "hlead" and "date bef 11/7/2000." Also, several references were retrieved from the Euromoney.com Web site.



### List of Most Pertinent References

The following 16 references uncovered by the above searches are deemed most closely related to the subject matter encompassed by the claims of the present patent application. A copy of each of the references, an Information Disclosure Statement, and a 1449 form are enclosed.

#### I. U.S. Issued Patents

- U.S. patent 5,930,767, "Transaction Methods Systems and Devices" issued to Reber et al. ("Reber")
- U.S. patent 5,262,942, "Financial Transaction Network" issued to Earle ("Earle")
- U.S. patent 4,677,552, "International Commodity Trade Exchange" issued to Sibley, Jr. ("Sibley")
- U.S. patent 6,029,146, "Method and Apparatus for Trading Securities Electronically" issued to Hawkins et al. ("Hawkins")
- U.S. patent 5,950,176, "Computer-Implemented Securities Trading System with a Virtual Specialist Function" issued to Keiser et al. ("Keiser")
- U.S. patent 5,924,082, "Negotiated Matching System" issued to Silverman et al. ("Silverman I")
- U.S. patent 5,375,055, "Credit Management for Electronic Brokerage System" issued to Togher et al. ("Togher")
- U.S. patent 5,924,083, "Distributed Matching System for Displaying a Book of Credit Filtered Bids and Offers" issued to Silverman et al. ("Silverman II")

## II. Foreign Patent Publications

- PCT published patent application W0 99 19821, "Systems, Methods and Computer Program Products for Electronic Trading of Financial Instruments" having May as the inventor ("May")
- EPO granted patent 0 407 026 B1, "Distributed system and method for matching of buyers and sellers" having Silverman et al. as inventors ("Silverman III")
- EPO published patent application 0 411 748 A2, "System for matching of buyers and sellers with risk minimization" having Scholldorf as the inventor ("Scholldorf")
- EPO granted patent 0 399 850 B1, "Anonymous matching system" having Silverman et al. as inventors ("Silverman IV")

## III. Other References

- Ahuja, R.K., Magnanti, T.L., and Orlin, J.B., *Network Flows: Theory, Algorithms, and Applications* (Prentice-Hall, Inc. 1993), New Jersey, U.S.A., chs. 7 & 9 ("Ahuja")
- Wall Street & Technology, *The sun sets on a year of sweeping changes, giving rise to a new era in Financial Technology* (Jan. 2000), Vol. 18, No.1, pp. 18-24, U.S.A. ("Wall Street")
- Ben Wright, *Unlocking the C2C forex riddle* (July 25, 2001), Euromoney.com, U.K. ("Euromoney I")
- Jennifer Morris, *Forex goes into future shock* (October 2001), Euromoney, U.K. ("Euromoney II")

## Detailed Discussion of the References

The following is a detailed discussion of the claims of the present patent application with respect to the above references.

Said discussion particularly points out how the claimed subject matter is distinguishable over the references.

I. General Concepts

A. Ahuja

Ahuja is relevant as a useful resource in algorithmically implementing clauses of the claims related to maximum network flows and minimum cost flows, but not to any claim taken as a whole.

B. Reber

Reber is understood to disclose a method for approving and recording transactions over a network. A computer and server are accessible to other remote computers through a network such as the Internet. Two data elements, the subject matter of the transaction and the party, are sent to the computer. The second data element is read into the computer by an optical data reader. In approving a transaction, the computer attempts to authenticate the party to the transaction by comparing the second data element to other associated data entries in a database. If approved, the computer records transaction data such as date, time, and amount. Thus, Reber discloses a basic method for facilitating a transaction over a network.

Reber does not disclose the claimed subject matter of the present invention. Reber does not disclose current tradable bid and offered prices and sizes subject to the agents' flow limits

as required by claims 1 and 9. Nor does Reber disclose a non-credit-extending agent having trading channels with at least two credit-extending agents, and in turn, at least one of the credit-extending agents having trading channels with at least two non-credit-extending agents, where the credit-extending agent allows the central computer to perform trades between the two non-credit-extending agents via the credit-extending agent, as required by claim 9. Reber does not disclose a central computer that calculates topology-dependent individual trading limits for a network of at least two credit-extending agents and at least two non-credit-extending agents as required by claim 19. Reber does not disclose a virtually cliqued network comprised of at least two non-credit-extending agents and at least two credit-extending agents coupled by a plurality of trading channels as recited in claim 20. Reber does not disclose a custom limit order book showing multi-hop trading limits as recited in claims 43, 46, 47, 49, 53 and 55. Nor does Reber disclose converting input credit limits into a set of trading limits, and in turn, determining multi-hop trading limits from the trading limits, and further, communicating a custom limit order book based on the multi-hop trading limits to the agents as recited in claims 44, 47 and 55.

## II. Financial Markets as Electronic Communication Networks

### A. Euromoney I and Euromoney II

Insofar as Euromoney I and Euromoney II discuss the present invention, the discussion was previously disclosed in the two provisional applications upon which the present invention claims priority. Insofar as Euromoney I and Euromoney II discuss competitor systems, the articles themselves point out material differences between the competitor systems and the present invention.

B. Earle

Earle is understood to disclose a financial transaction network using mutual fund shares to substitute for currencies during settlement. The system includes workstations operating dedicated software menus, connected to a host processor operating a client service and administration system for access to the financial network, a transfer agent for executing transactions, and a fund accountant for maintaining mutual fund portfolio records. Workstations allow swap request postings to a bulletin board. Interested parties use the client service and administration system together with the transfer agent to execute trades, which are recorded by the fund accountant. Mutual fund shares substituting as currency in the deal provide immediate finality of the trade. Thus, Earle discloses an automated system for completing a financial transaction that is settled with mutual fund shares substituting for currency.

Earle does not disclose the claimed subject matter of the present invention. Earle's host processor discloses swap requests, not current tradable bid and offered prices and sizes subject to the agents' flow limits as required by claims 1 and 9.

Nor does Earle disclose a non-credit-extending agent having trading channels with at least two credit-extending agents, and in turn, at least one of the credit-extending agents having trading channels with at least two non-credit-extending agents, where the credit-extending agent allows the central computer to perform trades between the two non-credit-extending agents via the credit-extending agent, as required by claim 9. Earle does not disclose a central computer that calculates topology-dependent individual trading limits for a network of at least two credit-extending agents and at least two non-credit-extending agents as required by claim 19. Earle does not disclose a virtually cliqued network comprised of at least two non-credit-extending agents and at least two credit-extending agents coupled by a plurality of trading channels as recited in claim 20. Earle does not disclose a custom limit order book showing multi-hop trading limits as recited in claims 43, 46, 47, 49, 53 and 55. Nor does Earle disclose converting input credit limits into a set of trading limits, and in turn, determining multi-hop trading limits from the trading limits,

and further, communicating a custom limit order book based on the multi-hop trading limits to the agents as recited in claims 44, 47 and 55.

C. Sibley

Sibley is understood to disclose an international commodity trade exchange providing commodity information from a plurality of local exchanges in at least two countries around the world. Multiple user computer terminals connect to local exchanges in the transmission of data representing bids and offers. The local exchanges connect to a host computer through a satellite communications network, allowing any trader associated with any particular local exchange to trade in a selected market with any other trader associated with any other local exchange at a member site located in any country around the world. Thus, Sibley discloses a satellite-enabled network of local exchanges allowing international transmission of bids and offers through computer terminals.

Sibley does not disclose the claimed subject matter of the present invention. Sibley discloses mere bid and offered prices, not current tradable bid and offered prices and sizes subject to the agents' flow limits as required by claims 1 and 9.

Nor does Sibley disclose a non-credit-extending agent having trading channels with at least two credit-extending agents, and in turn, at least one of the credit-extending agents

having trading channels with at least two non-credit-extending agents, where the credit-extending agent allows the central computer to perform trades between the two non-credit-extending agents via the credit-extending agent, as required by claim 9. Sibley does not disclose a central computer that calculates topology-dependent individual trading limits for a network of at least two credit-extending agents and at least two non-credit-extending agents as required by claim 19. Sibley does not disclose a virtually cliqued network comprised of at least two non-credit-extending agents and at least two credit-extending agents coupled by a plurality of trading channels as recited in claim 20. Sibley does not disclose a custom limit order book showing multi-hop trading limits as recited in claims 43, 46, 47, 49, 53 and 55. Nor does Sibley disclose converting input credit limits into a set of trading limits, and in turn, determining multi-hop trading limits from the trading limits, and further, communicating a custom limit order book based on the multi-hop trading limits to the agents as recited in claims 44, 47 and 55.

### III. Integration of Trade Matching Systems

#### A. Hawkins

Hawkins is understood to disclose an electronic trading matching system to confirm and settle trade orders placed between brokers. Throughout the process, the SWIFT (Society for



Worldwide Interbank Financial Telecommunications) Financial Network format provides compatibility for orders and messages. In the process, an originating broker's order is transmitted from a workstation to a host computer. When an executing broker connects to the network, a host computer downloads the order to the connected workstation, presenting the order in an order/confirmation format. A confirmation message is sent to the host computer once the order has been executed, and matched with the original broker's message. A notification message is then formatted and transmitted by the host computer to the originating broker's clearing agent indicating either a deliver against payment or receive against payment. Thus, Hawkins provides automatic matching between an originating broker's order message and an executing broker's confirmation message for the purposes of automatically notifying the originating broker's clearing agent.

Hawkins does not disclose the claimed subject matter of the present invention. Hawkins does not disclose current tradable bid and offered prices and sizes subject to the agents' flow limits as required by claims 1 and 9. Nor does Hawkins disclose a non-credit-extending agent having trading channels with at least two credit-extending agents, and in turn, at least one of the credit-extending agents having trading channels with at least two non-credit-extending agents, where the credit-

extending agent allows the central computer to perform trades between the two non-credit-extending agents via the credit-extending agent, as required by claim 9. Hawkins does not disclose a central computer that calculates topology-dependent individual trading limits for a network of at least two credit-extending agents and at least two non-credit-extending agents as required by claim 19. Hawkins does not disclose a virtually cliqued network comprised of at least two non-credit-extending agents and at least two credit-extending agents coupled by a plurality of trading channels as recited in claim 20. Hawkins does not disclose a custom limit order book showing multi-hop trading limits as recited in claims 43, 46, 47, 49, 53 and 55. Nor does Hawkins disclose converting input credit limits into a set of trading limits, and in turn, determining multi-hop trading limits from the trading limits, and further, communicating a custom limit order book based on the multi-hop trading limits to the agents as recited in claims 44, 47 and 55.

B. Keiser

Keiser is understood to disclose an electronic securities trading system using a virtual specialist responsive to imbalances in buy and sell orders. A server computer matches buy and sell orders for derivative financial instruments received from a plurality of client computers. Based on the supply and demand of orders, the server computer sets a market price for

individual securities. Order imbalances causing price volatility signal a virtual specialist to become an offsetting market participant. Specifically, when the price movement during the sweep pricing cycle is greater than or equal to an adjusted price movement threshold, the virtual specialist does not trade in the market. Otherwise, the virtual specialist trades out of a virtual specialist portfolio. Thus, Keiser uses a virtual specialist to counteract price volatility in a securities trading system due to an imbalance in buy and sell orders.

Keiser does not disclose the claimed subject matter of the present invention. Keiser does not disclose current tradable bid and offered prices and sizes subject to the agents' flow limits as required by claims 1 and 9. Nor does Keiser disclose a non-credit-extending agent having trading channels with at least two credit-extending agents, and in turn, at least one of the credit-extending agents having trading channels with at least two non-credit-extending agents, where the credit-extending agent allows the central computer to perform trades between the two non-credit-extending agents via the credit-extending agent, as required by claim 9. Keiser does not disclose a central computer that calculates topology-dependent individual trading limits for a network of at least two credit-extending agents and at least two non-credit-extending agents as required by claim 19. Keiser does not disclose a virtually cliqued network

comprised of at least two non-credit-extending agents and at least two credit-extending agents coupled by a plurality of trading channels as recited in claim 20. Keiser does not disclose a custom limit order book showing multi-hop trading limits as recited in claims 43, 46, 47, 49, 53 and 55. Nor does Keiser disclose converting input credit limits into a set of trading limits, and in turn, determining multi-hop trading limits from the trading limits, and further, communicating a custom limit order book based on the multi-hop trading limits to the agents as recited in claims 44, 47 and 55.

C. Silverman I

Silverman I is understood to disclose a negotiation matching system between potential counterparties using a communications network. Remote terminals in the network communicate with each other and with a matching station. A user at the remote terminal enters trading and ranking information into the remote terminal. The matching station uses the information to identify potential transactions between counterparties. Once a match is identified, the potential counterparties send negotiating messages to complete the trade.

Silverman I does not disclose the claimed subject matter of the present invention. Silverman I's matching station discloses acceptability "trading and ranking information" in identifying potential transactions, rather than current tradable bid and

offered prices and sizes subject to the agents' flow limits as required by claims 1 and 9.

Nor does Silverman I disclose a non-credit-extending agent having trading channels with at least two credit-extending agents, and in turn, at least one of the credit-extending agents having trading channels with at least two non-credit-extending agents, where the credit-extending agent allows the central computer to perform trades between the two non-credit-extending agents via the credit-extending agent, as required by claim 9. Silverman I does not disclose a central computer that calculates topology-dependent individual trading limits for a network of at least two credit-extending agents and at least two non-credit-extending agents as required by claim 19. Silverman I does not disclose a virtually cliqued network comprised of at least two non-credit-extending agents and at least two credit-extending agents coupled by a plurality of trading channels as recited in claim 20. Silverman I does not disclose a custom limit order book showing multi-hop trading limits as recited in claims 43, 46, 47, 49, 53 and 55. Nor does Silverman I disclose converting input credit limits into a set of trading limits, and in turn, determining multi-hop trading limits from the trading limits, and further, communicating a custom limit order book based on the multi-hop trading limits to the agents as recited in claims 44, 47 and 55.

#### IV. Integration of Credit Limits

##### A. Wall Street and Togher

Wall Street and Togher are understood to disclose electronic trade matching systems with the integration of credit and market risk systems.

Togher further discloses a method for reducing the delay during electronic trading of dealable price information by transmitting only changes in credit status over a communication network. Prior to a transaction, a simple check determines whether any credit remains between two possible counterparties to the potential transaction resulting in a yes/no preauthorization matrix. The result is transmitted to the counterparties as a one-bit flag indicating whether a predetermined limit has been exceeded. More specific credit limit data is maintained at an access node accessed by that particular client. To further limit the data transmitted, only changes in the credit state between a particular access node and a potential counterparty are transmitted to the regional distribution nodes for access by the counterparty's access node. Consequently, the access node ignores any state information relevant to transactions between two client sites associated with other distribution nodes. Thus, Togher seeks to limit available credit information by maintaining credit limit data on a client's access node while transmitting to counterparties a

one-bit flag indicating whether the credit limit has been exceeded.

Neither Wall Street nor Togher discloses the claimed subject matter of the present invention. Togher verifies credit availability after a trade is commenced and gives the user information that suggests that a trade can be made even though the user does not have enough credit to take the whole trade. Neither Wall Street nor Togher discloses current tradable bid and offered prices and sizes subject to the agents' flow limits as required by claims 1 and 9. Nor do either of Wall Street or Togher disclose a non-credit-extending agent having trading channels with at least two credit-extending agents, and in turn, at least one of the credit-extending agents having trading channels with at least two non-credit-extending agents, where the credit-extending agent allows the central computer to perform trades between the two non-credit-extending agents via the credit-extending agent, as required by claim 9.

Rather than disclosing a central computer that calculates topology-dependent individual trading limits for a network of at least two credit-extending agents and at least two non-credit-extending agents as required by claim 19, Togher discloses to the counterparties just a one-bit flag indicating whether a credit limit has been exceeded. Nor does Wall Street disclose this limitation of claim 19.

Neither Wall Street nor Togher discloses a virtually cliqued network comprised of at least two non-credit-extending agents and at least two credit-extending agents coupled by a plurality of trading channels as recited in claim 20.

Togher discloses a system capable of only a single-hop transaction, not a custom limit order book showing multi-hop trading limits as recited in claims 43, 46, 47, 49, 53 and 55. Nor does Wall Street disclose this limitation of claims 43, 46, 47, 49, 53, and 55. Nor do either of Wall Street or Togher disclose converting input credit limits into a set of trading limits, and in turn, determining multi-hop trading limits from the trading limits, and further, communicating a custom limit order book based on the multi-hop trading limits to the agents as recited in claims 44, 47 and 55.

B. May

May is understood to disclose an electronic trading system using color-coded credit preference information about a potential counterparty. Users are connected via a computer network to a central server. Through interfaces viewed in an Internet browser, users retrieve market data, enter and execute trades, and monitor outstanding and historical orders and executions. Each user, in relation to all possible counterparties, inputs credit preferences resulting in a color-coding of eligible trade orders. Users also place orders for



various financial instruments via an auction process whereby the system matches all orders and determines the prices and quantities executed based on several guidelines including the user credit preferences. Thus, May's credit computer uses a raw credit limit, manually entered by a user in relation to every other user, to arrive at a color scheme designating eligible trade orders.

May does not disclose the claimed subject matter of the present invention. May discloses a system showing all eligible trades supplemented with acceptability color-coding based on a credit limit, as opposed to current tradable bid and offered prices and sizes subject to the agents' flow limits as required by claims 1 and 9.

Nor does May disclose a non-credit-extending agent having trading channels with at least two credit-extending agents, and in turn, at least one of the credit-extending agents having trading channels with at least two non-credit-extending agents, where the credit-extending agent allows the central computer to perform trades between the two non-credit-extending agents via the credit-extending agent, as required by claim 9. May does not disclose a central computer that calculates topology-dependent individual trading limits for a network of at least two credit-extending agents and at least two non-credit-extending agents as required by claim 19. May does not disclose a virtually cliqued

network comprised of at least two non-credit-extending agents and at least two credit-extending agents coupled by a plurality of trading channels as recited in claim 20. May does not disclose a custom limit order book showing multi-hop trading limits as recited in claims 43, 46, 47, 49, 53 and 55. Nor does May disclose converting input credit limits into a set of trading limits, and in turn, determining multi-hop trading limits from the trading limits, and further, communicating a custom limit order book based on the multi-hop trading limits to the agents as recited in claims 44, 47 and 55.

C. Silverman III, Scholldorf, and Silverman IV

Silverman III, Scholldorf, and Silverman IV are understood to disclose an electronic trading system that matches bids and offers for trading instruments based on variables such as counterparty credit limits between parties, price, and available quantity. Counterparties enter credit limits, bids, and offers into keystations. A host computer uses a gross party credit limit, or the minimum of trading party credit limits, to block potential trades exceeding that amount. Further to the matching process, the host computer determines the quantity of a permissible match at the gross party credit limit and the best bid ask price for the largest available quantity for automatically completing the potential matching transaction.

Silverman III, Scholldorf, and Silverman IV are understood to further disclose both the originating keystation and the counterparty keystation having an associated local database keystation book. A subset of the host book of the host computer, the keystation book displays host book information according to its display depth range while maintaining anonymity by not showing counterparty credit limits. Examples of displayable keystation data are summaries of bids and offers in the host book, best bid or offer, and next best bid or offer. The host computer broadcasts updated display information relating to the keystation books. Additionally, the host computer sends direct messages to particular counterparty keystations in providing dispositions of pending bids and offers. Thus, Silverman III, Scholldorf, and Silverman IV disclose a keystation book as a subset of a host book displaying information according to its display depth.

Silverman IV is understood to further disclose a system for detecting broken trades. Keystations cast a trade vote on whether to commit to a match, thereby addressing the risk of system failure. Accordingly, votes are simulated through the detection of application generated "heartbeats" from the counterparties. Missing "heartbeats" signify a party's inability to receive notification of a transaction. The broken trade is then cancelled.

Neither Silverman III, Scholldorf, nor Silverman IV discloses the claimed subject matter of the present invention. The host computer of Silverman III, Scholldorf, and Silverman IV crudely blocks trades exceeding the "gross credit limit", rather than disclose current tradable bid and offered prices and sizes subject to the agents' flow limits as required by claims 1 and 9.

Nor do Silverman III, Scholldorf, or Silverman IV disclose a non-credit-extending agent having trading channels with at least two credit-extending agents, and in turn, at least one of the credit-extending agents having trading channels with at least two non-credit-extending agents, where the credit-extending agent allows the central computer to perform trades between the two non-credit-extending agents via the credit-extending agent, as required by claim 9. Neither Silverman III, Scholldorf, nor Silverman IV discloses a central computer that calculates topology-dependent individual trading limits for a network of at least two credit-extending agents and at least two non-credit-extending agents as required by claim 19. Neither Silverman III, Scholldorf, nor Silverman IV discloses a virtually cliqued network comprised of at least two non-credit-extending agents and at least two credit-extending agents coupled by a plurality of trading channels as recited in claim 20.

Silverman III, Scholldorf, and Silverman IV disclose a keystation book retaining credit limit information, not a custom limit order book showing multi-hop trading limits as recited in claims 43, 46, 47, 49, 53 and 55. Nor do either of Silverman III, Scholldorf, or Silverman IV disclose converting input credit limits into a set of trading limits, and in turn, determining multi-hop trading limits from the trading limits, and further, communicating a custom limit order book based on the multi-hop trading limits to the agents as recited in claims 44, 47 and 55.

D. Silverman II

Silverman II is understood to disclose an electronic trading system for financial instruments that displays a real-time credit filtered view. The topology of the system includes a host computer networked to intelligent nodes that, in turn, are networked to multiple keystations. The host maintains a central order book in which information regarding all currently available bids and offers for all available trading instruments are stored. The host also maintains credit information from each trading entity, including an amount of credit that the trading entity is willing to extend to other individual trading entities and groups of trading entities on the system. Group credit limits indicate credit extended to a group of counterparties as a whole in addition to the individual limit set for each member

of the group. Credit information is sent to the intelligent nodes for storage in a credit information storage unit. Updates to the credit information can be limited to "credit threshold" data, since updates are not needed when available credit between parties changes from one amount above the threshold value to another amount above the threshold value. The credit filtered view, including a predetermined number of orders currently available to a viewing entity based upon one or more credit limits entered by the viewing trading entity and/or other trading entities, may include: bilaterally screened prices and quantities in one color; unilaterally screened prices and quantities where the viewing trading entity has extended credit in a second color; and unilaterally screened prices and quantities where the other trading entities have extended credit in a third color. Orders entered by the viewing trading entity or members of the viewing trading entity's credit group may optionally be displayed in a fourth color. Thus, Silverman II discloses a semi-distributed system with a credit-filtered market view.

Silverman II does not disclose the claimed subject matter of the present invention. Silverman II discloses a credit limit filter in showing a predetermined number of orders currently available, and fails to disclose current tradable bid and

offered prices and sizes subject to the agents' flow limits as required by claims 1 and 9.

Nor does Silverman II disclose a non-credit-extending agent having trading channels with at least two credit-extending agents, and in turn, at least one of the credit-extending agents having trading channels with at least two non-credit-extending agents, where the credit-extending agent allows the central computer to perform trades between the two non-credit-extending agents via the credit-extending agent, as required by claim 9.

Silverman II discloses keystation entered credit limits apparently depending on any value desired, rather than disclosing a central computer that calculates topology-dependent individual trading limits for a network of at least two credit-extending agents and at least two non-credit-extending agents as required by claim 19.

Silverman II does not disclose a virtually cliqued network comprised of at least two non-credit-extending agents and at least two credit-extending agents coupled by a plurality of trading channels as recited in claim 20.

Silverman II discloses intelligent nodes storing credit limits in a credit information storage unit, which are centralized with respect to the agent's access to the credit information. Furthermore, the credit information is limited to direct relationships between agents. Thus, Silverman II does not

disclose a custom limit order book showing multi-hop trading limits as recited in claims 43, 46, 47, 49, 53 and 55. Nor does Silverman II disclose converting input credit limits into a set of trading limits, and in turn, determining multi-hop trading limits from the trading limits, and further, communicating a custom limit order book based on the multi-hop trading limits to the agents as recited in claims 44, 47 and 55.

**Conclusion**

Applicants respectfully submit that all criteria specified by MPEP §708.02, VIII have been met, and hereby request that the present petition to make the present application special be granted, i.e., that the present application be given the benefit of accelerated prosecution.

Respectfully submitted,

date of signature:

*January 23, 2002*



Edward J. Radlo  
Registration No. 26,793  
Attorney for Applicants

Fenwick & West LLP  
Two Palo Alto Square  
Palo Alto, CA 94306  
Tel.: (650) 858-7142  
Fax.: (650) 494-1417

enclosures  
cc: A.Glodjo (w. encl.)